

# Email Intent

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## Introduction

The Email Intent project aims to automate the identification and capture of intent for every customer email, transitioning to a more structured and detailed approach. This involves capturing intent at the email level rather than just at the case level, enabling enhanced email routing, skill mapping, and automation processes.

## Scope

### In Scope

- Implementing a custom object structure in Salesforce to store multiple intent parameters at the email level
- Capturing and storing intent for every email received in a case
- Mapping intent parameters to skill levels (Level 1, Level 2, Level 3) for email routing
- Updating existing workflows and processes to accommodate the new intent tagging approach
- Integrating with the 30STF system to receive intent data payloads

### Out of Scope

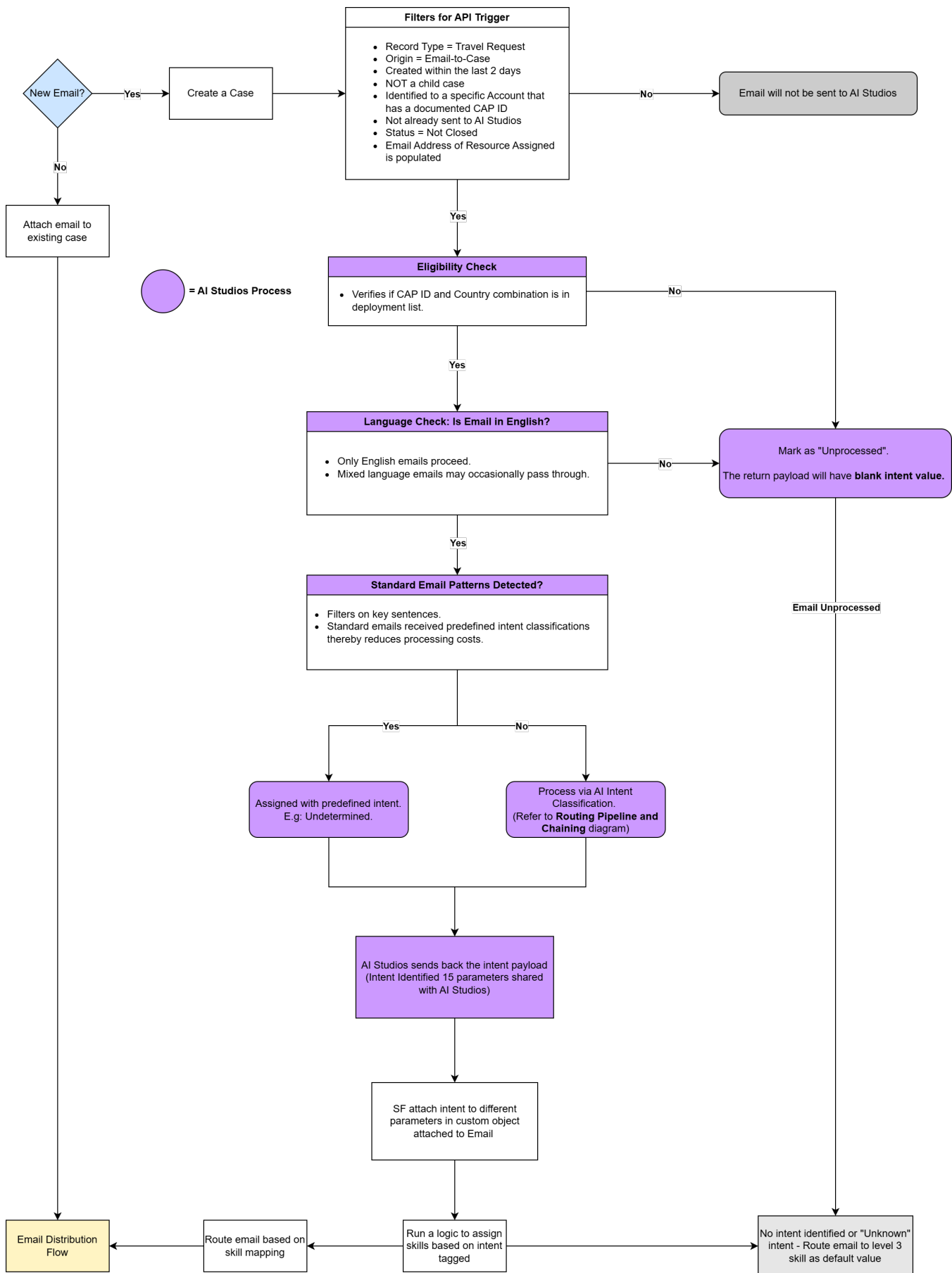
- Modifications to the email automation processes beyond intent-based routing

## Success KPI's

- Achieve 90% accuracy in labeled intent and skill mapping
- Utilize intent data for email routing and email automation processes
- Realize revenue savings through improved email automation

## Technical Design Diagram (MVP)

Updated: 28 Feb 2025.



# NLP Status in Return Payload:

**Processed** - Case was processed successfully

**Errored** - An error was successfully returned from AI Studio

**Filtered** - AI Studio "filtered out something in the intent response, based on the access control."

**Unprocessed** - Case is out of scope based on language or client group (CAPID, COE)

**30STF error** - This is a general error when something goes wrong with getting the response from AI Studio. This could be a timeout exception, 500 http error code response, or an empty response.

**Disqualified** - Case was not sent to AI Studio by Salesforce

## Requirement Details - Intent Parameters

- Not Categorised - Intent not identified; Ex- not enough information in Email body
- Unknown - Result of post processing

Parameter	Source	User Stories with Data Definitions	Output Data	Example (use case)	Example 2	Default Value
<b>Urgency (Time to Travel)</b>	Email Body	<p>As an email distribution system, I need to extract urgency information from the email content based on 'time to travel' so that I can prioritize and route the urgent emails</p> <p><b>Extraction Logic/Definitions:</b></p> <ul style="list-style-type: none"><li>- Analyze the email body to identify travel details including - requested travel date and time, words like tomorrow or today to describe 'Time to travel' is urgent</li><li>- Calculate the time difference between current time and the requested travel time.</li><li>- If the time to travel is less than 24 hours, classify the case as urgent.</li></ul>	<ul style="list-style-type: none"><li>• Yes</li><li>• No</li><li>• Unknown</li></ul>	<p><b>Example 1:</b></p> <p><b>Email Content:</b> "I want to travel from Boston to Chicago tomorrow."</p> <p><b>Extracted Travel Date and Time:</b></p> <p>Tomorrow (e.g., July 24th, 9 AM)</p> <ul style="list-style-type: none"><li>- Current Date and Time: July 23, 11 AM</li><li>- Time to Travel: 22 hours</li><li>- Extracted Urgency: Urgent = yes</li></ul>	<p><b>Example 2:</b></p> <p><b>Email Content:</b> "I need to book a flight from New York to Paris on July 15th at 10 AM."</p> <p><b>Extracted Travel Date and Time:</b></p> <p>July 15th, 10 AM</p> <ul style="list-style-type: none"><li>- Current Date and Time: July 11th, 9 AM</li><li>- Time to Travel: 4 days</li><li>- Extracted Urgency: Urgent = No</li></ul>	Unknown
<b>Type of Traffic Request</b>	Email Body or itinerary	<p>As an email distribution system, I need to extract the type of traffic request(e.g., air, hotel, car, ground transportation, others) from the email content so that I can correctly categorize and route the case based on the client's specific travel needs.</p> <p><b>Extraction Logic:</b></p> <ul style="list-style-type: none"><li>- Analyze the email body to identify mentions of different types of travel requests</li><li>- look for keywords indicating specific travel request such as air, hotel, car, ground transportation and others</li><li>- Extract the identified values and store them as values in 'Traffic Request Parameters'</li><li>- If email contains multiple requests, then tag all relevant types (E.g., both air and hotel)</li></ul> <p><b>Keywords/ Definitions</b></p> <ul style="list-style-type: none"><li>- Air: "flight", "airfare", "plane"</li><li>- Hotel: "hotel", "accommodation", "stay"</li><li>- Car: "car rental", "vehicle", book a car from point A to point B, Car Rental Companies like Budget, Hertz, Avis, Europcar, Sixt, National Car Rental, Enterprise Rent-A-Car.</li><li>- Ground: "ground transportation", "shuttle", "bus", "taxi", "Limo", hotel transfer, intercity Limo, Airport transfer</li></ul>	<ul style="list-style-type: none"><li>• Air</li><li>• Hotel</li><li>• Car</li><li>• Rail</li><li>• Ground</li><li>• Unknown</li></ul>	<p>Example 1:</p> <ul style="list-style-type: none"><li>- Email Content: "I need to book a flight and a hotel for my trip."</li><li>- Extracted Type of Traffic Request: ["Air", "Hotel"]</li></ul>	<p>Example 2:</p> <ul style="list-style-type: none"><li>- Email Content: "Please arrange ground transportation and a car rental."</li><li>- Extracted Type of Traffic Request: ["Ground", "Car"]</li></ul>	Blank
<b>Traffic Request</b>	Email Body	<p>As an email distribution system, I need to extract the traffic request (e.g., issuance, cancellation, modification, ticket status, document request, visa requirements, border control, itinerary approval and others) from the email content so that I can categorize and handle the case based on the specific nature of the client's request.</p> <p><b>Extraction logic:</b></p> <ul style="list-style-type: none"><li>- Analyze the email body to identify mentions of different types of traffic requests.</li><li>- Look for keywords indicating specific types of requests such as issuance, cancellation, ticket status, document request, visa requirements, border control, itinerary approval and others</li><li>- Extract the identified values and store them in 'Traffic Request'</li><li>- If email contains multiple requests, then tag all relevant types (E.g., both issuance and Cancellation)</li></ul> <p><b>Keywords/Definitions</b></p> <ul style="list-style-type: none"><li>- Issuance: "book", "issue", "reservation", new bookings, travel request approved, auto approval/ auto issuance of PNR/ pre trip approved PNR, approved for issuance, I need to book a flight with specific details, "trip Approved"</li><li>- Trip Approval: incoming initial email with keywords "approve itinerary", "itinerary approval needed", "approval needed before issuance".</li><li>- Quote: travel options, offers, booking quote, Air Quote, hotel rate, Hotel options, Car rates, Rail offers, Rail options</li><li>- Cancellation: "cancel", "terminate" , Cancel a ticket &amp; Refund the ticket</li><li>- Modification: "modify", "change", "update", modify due to delayed flight, Schedule change</li></ul>	<ul style="list-style-type: none"><li>• Issuance</li><li>• Quote</li><li>• Cancellation</li><li>• Modification</li><li>• Trip Approval</li><li>• Not Categorized</li></ul>	<p>Example</p> <p><b>Issuance:</b> I need to book a flight British airways flight number 1234 from Boston to London on 15 Aug at 7 am.</p> <p><b>Quote:</b> I need to book a flight from Boston to London on 15 Aug. Air Quote. And i also need Hotel options.</p>	<p>Example 2:</p> <ul style="list-style-type: none"><li>- Email Content: "Please modify my hotel reservation and provide the necessary visa requirements."</li><li>- Extracted Type of Traffic Request: ["Hotel"]</li><li>- Extracted Traffic Request: ["Modification", "Visa Requirements"]</li></ul>	If no value found then N/A

<b>Document Request</b>	Email Body	<b>Keywords/Definitions</b> - Invoice: "Invoice", Copy of Invoice, Invoice couldn't be processed, Missing or received receipts, purchase receipts or invoices or statements of payment, for prepaid hotel - looking for folio for a specific hotel (invoice for prepaid hotel) - Itinerary: "Itinerary", a travel plans/schedule document to be sent for booked trips - Ticket: Requests for general support like PNR validation , Copy of Ticket document - Multiple Documents Request : invoice + Itinerary or Invoice + Ticket - Document Request: Papers, Documents requested, documents not falling in above category	<ul style="list-style-type: none"> <li>• Invoice</li> <li>• Itinerary</li> <li>• Ticket</li> <li>• Not Category</li> </ul>			Blank
<b>Information</b>	Email body	<b>Keywords/Definitions</b> - Visa Requirements: "visa", "visa requirements", visa appointments, visa processing details, visa documentation, visa regulations or other visa services, or travel requirements to obtain a visa, - Flight status: Flight Query, PNR Query, General Booking Query asking flight details, waitlist of flight bookings, upgrade of flights, status of cancellation or upgrade - Finance Question: Wrongly invoiced services or service fees, Incorrect or duplicate charge, Refunds, Inquiries on service fees, Transfer of Payments (Ex- transfer from Visa to Master card), car rental charged wrong, hotel double charged or duplicated charge, refunds for air, car, hotel. - Others: traveler or client PNR update ( seat/meal update , Frequent flyer update, Credit card update), Requests to add amenities like baggage, seats, meals to flight quotes.	<ul style="list-style-type: none"> <li>• Flight Status</li> <li>• Visa Requirements</li> <li>• Finance Questions</li> <li>• Other</li> </ul>			If no value found then blank or NA
<b>Online Support</b>	Email Body	- Navigation support of OBT, password reset, technical support of OBT, userid for OBT, error on OBT page	<ul style="list-style-type: none"> <li>• Online Support</li> </ul>			If no value found then blank or NA
<b>P2P /Complex</b>	Email body	As an email distribution system, I need to determine the complexity of the booking request (P2P vs. complex) from the email content so that I can route and prioritize the case accordingly  <b>Extraction Logic:</b> - Analyze the email body to identify the nature of the booking request. - Determine if the booking is point-to-point (one origin to one destination) or involves multiple destinations. - Classify the booking as: P2P: If the request is point-to-point, involving only one origin and one destination. Complex: If the request involves multiple destinations or multiple tickets.  <b>Definitions</b> P2P = One-way or round trip travel to a single destination (One way travel from point A to B; Return trip A >B then B>A) Complex = multi-destinations or multi tickets issued or multi trips For example A>B>C A>B, B>C, C>A A>B, B>C, C>B E.g: SIN-SYD-SIN flights + Hotel + Car = P2P travel	<ul style="list-style-type: none"> <li>• P2P</li> <li>• Complex</li> <li>• Example 1</li> <li>• Example 2</li> <li>• Scenarios P2P - Connections in flight</li> <li>• Scenarios Complex -</li> </ul>	Example 1 Email Content: I need a ticket from Boston to Chicago. Extracted Booking Complexity: Simple  Example 2 Email Content: I need tickets from New York to Paris and then to London. Extracted Booking Complexity: Complex  Scenarios P2P - Connections in flight Example: I need to travel to London on 20 Sep and return on 1 Oct. I am flexible to transit in either Dubai or Hong Kong.  Scenarios Complex - Example: I need flight options for the following itinerary: 25 Sep: Singapore - Hong Kong 27 Sep: Hong Kong - New York 2 Oct: New York - Singapore	Email Content: Book a flight from Los Angeles to Tokyo and another from Tokyo to Sydney. Extracted Booking Complexity: Complex	NA if not applicable

<b>Domestic vs International vs Regional</b>	Source: Email body / PNR	<p>As an email distribution system, I need to determine whether the booking request is Domestic, Regional or International from the email content based on origin and destination provided in the email so that I can correctly categorize and route the case based on the type of travel.</p> <p>Supplementary Source: Refer to spreadsheet named 'Dom-Int' for Regional exceptions</p> <p><b>Extraction Logic:</b></p> <ul style="list-style-type: none"> <li>- Analyze the email body to identify the origin and destination locations.</li> <li>- Determine if both locations are within the same country(domestic) or in different countries (international) or Regional (based on definitions provided)</li> <li>- Classify the booking as Domestic or International or Regional based the identified locations.</li> </ul> <p><b>Definitions:</b></p> <ul style="list-style-type: none"> <li>- Domestic = Origin and destination within the same country. Exceptions**</li> <li>- International = Origin and destination is not within the same country. **</li> <li>- Regional = Determine exceptions from Dom-Int</li> </ul>	<ul style="list-style-type: none"> <li>• Domestic</li> <li>• International</li> <li>• Regional</li> <li>• Undefined</li> </ul>	<p>Example 1: Email Content: I need a flight from Boston to Chicago. Extracted Origin: Boston Extracted Destination: Chicago Classification: Domestic</p> <p>Example 2: Email Content: I need a flight from Sydney to Auckland. Extracted Origin: Sydney, AU Extracted Destination: Auckland, NZ Classification: Regional</p>	Email Content: Please book a ticket from New York to Paris. Extracted Origin: New York Extracted Destination: Paris Classification: International	
<b>Pre-Ticketing vs Post Ticketing</b>	Email Body and API call for Itinerary information to GTR	<p>As an email distribution system, I need to categorize incoming emails as either Pre-Ticketing or Post-Ticketing based on whether the ticket has been issued. This will help in routing the emails to the appropriate support team for handling the specific type of request.</p> <p><b>Extraction Logic:</b></p> <ul style="list-style-type: none"> <li>- Read the email and identify is email request is related to ticketing.</li> <li>- Actions that occur before ticket issuance (e.g. booking, fare, inquiry) or after ticket issuance (e.g. refund, cancellation)</li> <li>- Check ticket status via API call to GDS</li> <li>- If the ticket has not been issued, categorize the email as Pre-Ticketing. If the ticket has been issued, categorize the email as Post-Ticketing</li> </ul> <p><b>Definitions:</b> Existing booking with no Locator number (Air) Pre-Ticketing: If there is a known itinerary and it has not been ticketed, it is pre-ticketing. PNR with no ticket number or invoice number. Post -Ticketing: If there is a known itinerary and it has been ticketed, it is post-ticketing. If PNR has invoice number or ticket number then it's post ticketing.</p>	<ul style="list-style-type: none"> <li>• Pre-Ticketing</li> <li>• Undefined</li> </ul>	<p>SF Case numbers: 2404-27552418 (ticketing status unknown) 2404-27593055 (ticketing status unknown) 2403-27399306 (request to cancel and refund flights) 2404-27496787 (request to cancel and refund flights)</p> <p>Scenarios - Pre-ticketing including cancellation; not invoiced ticket (ticket on hold) Post-ticketed</p>		Blank if not determined
<b>Actionable vs Non Actionable emails</b>	Email Body or may be sender's email address	<p>As an email distribution system, I need to determine whether an email is actionable or non-actionable so that non-actionable emails (e.g. system generated, promotional emails) can be automatically tagged and potentially closed without requiring agent intervention.</p> <p><b>Definitions</b></p> <p>Actionable: Anything not falling under non-actionable category is actionable; emails that need to be handled by TCs. Non-Actionable: If the email is identified as system-generated or auto-response, these are classified as non actionable. Example : Auto Response Car Vendors Gratitude Email Non-Delivery Out of Office Recall Survey Trip Receipts</p>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Unknown</li> </ul>	Refer to sheet 'Non-actionable emails examples'	TBD	
<b>Multi-Intent</b>	Email Body	Combination of multiple request types or combination of more than one 'type of traffic requests' Single traveler with multiple request types; Single or Multi traveler with multiple types of traffic requests	<ul style="list-style-type: none"> <li>• Traveler</li> <li>• Flight</li> </ul>	<p>Example -</p> <ul style="list-style-type: none"> <li>- Person X contacting us for cancellation and new booking</li> <li>- Person X calling us for Visa Requirements and new booking or online support</li> </ul>		
<b>Language (Good to have)</b>	Email Body	<p>As an email distribution system, I need to determine the language in which the client's email is written so that I can route the case to an agent who speaks the same language and can provide the appropriate assistance.</p> <p>Extraction logic: Analyse the body of an email to detect the language in which email is written. Tag the email with identified language for routing purpose.</p>	Two letter language code	<p>Example Email Content: "bonjour, j'aimerais reserve un vol pour Paris" Language : FR</p>		

<b>Sentiment</b>	Email Body	<p>If the writer of the email seems angry or annoyed, the sentiment is negative</p> <p>If the writer of the email seems happy or excited, the sentiment is positive</p> <p>If the emotional state of the writer is not clear, the sentiment is neutral</p>	<ul style="list-style-type: none"> <li>• P o s i t i v e</li> <li>• N e g a t i v e</li> <li>• N e u t r a l</li> <li>• U n k n o w n</li> </ul>			
<b>Supplier</b>	Email Body	If email is received from a supplier, tag emails as supplier email	<ul style="list-style-type: none"> <li>• S u p p l i e r  n o t i f i c a t i o n s</li> <li>• C o n f i r m a t i o n e m a i l s</li> <li>• P r o m o t i o n a l A d s</li> </ul>			

Routing Pipeline and Chaining (by AI Studios):

[Routing Pipeline and Chaining \(2\).pdf](#)

Email Endpoint Analysis - by AI Studios

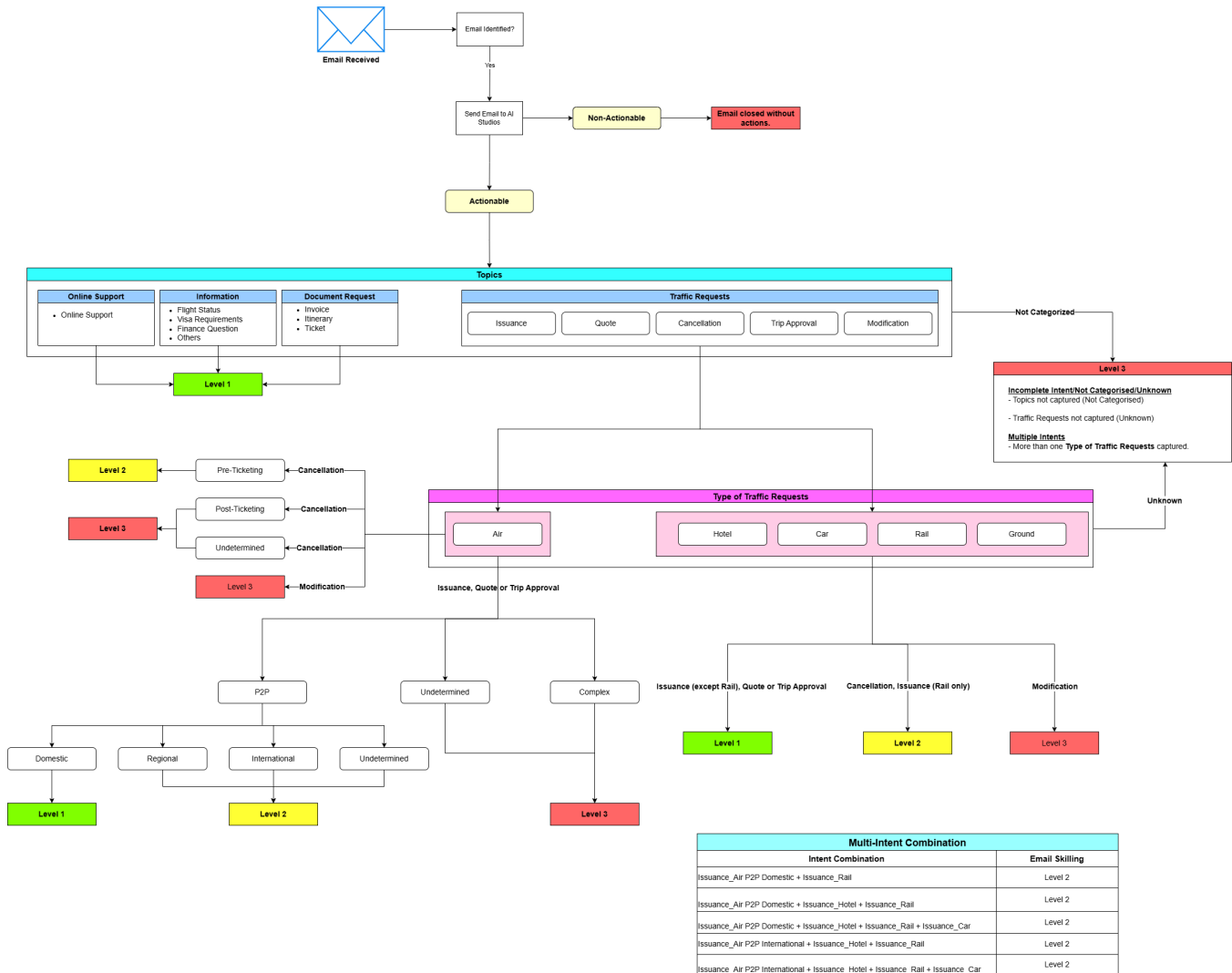


Email Analysis Endpoin...-090625-100655 (1).pdf

# Skill Logic

If multiple skills captured, tag the one that is higher.

- **Incomplete** - No information present in an incoming email (Incomplete email content)
- **Unknown** - Intent is unknown from email



## Callouts

- Existing workflows and processes that rely on the current intent tagging method will need to be updated
- Coordination with the 30STF team is required for integrating the intent data payload

## Salesforce Filter Used for Sending Email

- Origin = Email-to-Case
- RecordTypeId = Travel Request
- ParentId = Null
- Account.Id != Null
- EmailAddressOfResourceAssigned\_\_c != Null
- Account.CAPID\_\_c != null
- IsClosed = False
- CreatedDate >= two days ago

The following must be complete in the Case

- Account.BillingCountryCode
- Web Email
- Subject
- Description

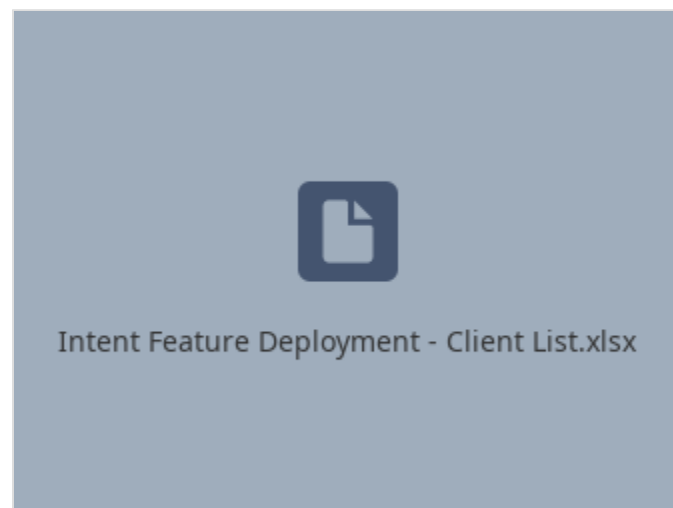
## Phases

In Scope for Service Evolution: Phase 0/1 - *First Email/English Only/countries for email automation*

**US/UK/AU/CA**

Country	Enable date	Estimate average email volume per day after enable	Intent ON for first English Email (old Intent pipeline)
SG,AU,HK,CA	17 April 2025	1000	COMPLETE
GB	21 April 2025	1000	COMPLETE
IN	23 April 2025	2500	COMPLETE
US	29 April 2025	3500	COMPLETE

**List of in-scope clients - as of 20 Feb 2025.**



### Phase 0: To go along with Pilot (TOM)

- Pilot clients (Email Automation)
- Expansion of Intent to all clients
- Upgrade subscription to process more number of emails per minute

### Phase 1: (Re-build )

- Segment intent parameters in custom object
  - Intent for 1st email at email level only
  - SF needs to be ready to receive is also involved in the re-build along with 30STF
  - SF need to confirm if it needs to be a New API or use existing
- 90% accuracy on 1st email intent tagging

### Phase 2

- Capture Intent for every incoming email.

## Token Usage Analysis

[Link to file in TSO SharePoint](#)

RAID Log: <https://app.smartsheet.com/sheets/Vq9VjMrM824XmPCcHxPWJ4hfQ7qcgF37p2qGvCh1?view=grid>



# Milestones

Milestone	Completion Date
Discovery	31 Aug 2024
Submit Intent Re-build Requirements to both CoE & 30STF	13 Sep 2024
Requirement Refinement with 30STF & CoE	15 Oct 2024
Evaluate Cost of expanding Intent	07 Mar 2025
Implementation 30STF for Intent	<del>31 Jan 2025</del>
	<del>14 Feb</del>
	<del>21 Feb</del>
	<del>2nd May</del>
	06 Jun 2025
Implementation SF as well as Skill Logic	30 Apr 2025
	<del>03 June</del>
	TBD
Audit/Test on Re-build Values	30 Mar 2025
Go-Live	TBD